AMENDMENTS TO THE CLAIMS

Kindly amend claim 1 and add new claims 38-50 as shown in the following listing of claims.

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

Claim 1 (currently amended): A mandrel comprising a top surface, and an outer surface comprising a plurality of ridges and contoured surfaces extending between the ridges corresponding to polymer leaflets, wherein ~~an~~ a sharp edge on the mandrel separates the top surface and the contoured surfaces, with the mandrel edge corresponding to the free edge of the leaflets.

Claim 2 (original): The mandrel of claim 1 wherein the mandrel comprises three ridges connected by three scallops to form three contoured surfaces.

Claim 3 (original): The mandrel of claim 1 wherein the mandrel edge has a radius of curvature of no more than about 0.25 millimeters.

Claim 4 (original): The mandrel of claim 1 wherein the mandrel edge has a radius of curvature of no more than about 0.15 millimeters.

Claim 5 (original): The mandrel of claim 1 wherein the angle between the top surface and the contoured surfaces is no larger than about 135 degrees.

Claim 6 (original): The mandrel of claim 1 wherein the angle between the top surface and the contoured surfaces is no larger than about 90 degrees.

Claim 7 (original): The mandrel of claim 1 wherein the top surface of the mandrel is flat.

Claim 8 (original): The mandrel of claim 1 wherein the top surface of the mandrel has flat portions and curved portions.

Claim 9 (original): The mandrel of claim 1 wherein the top surface of the mandrel has flat portions adjacent the edge and a protruding portion away from the edge.

Claim 10 (original): The mandrel of claim 1 wherein the contoured surfaces are on an outside surface of the mandrel.

Claim 11 (original): The mandrel of claim 1 wherein the contoured surfaces are on an interior surface of the mandrel.

Claims 12 - 28 (canceled)

Claim 29 (original): A mandrel comprising an outer surface having a plurality of ridges and contoured surfaces extending between the ridges corresponding to polymer leaflets in a closed configuration, wherein contoured surfaces corresponding to the leaflets meet contoured surfaces of adjacent leaflets at a sharp edge.

Claim 30 (previously presented): The mandrel of claim 1 wherein the top surface of the mandrel is convex.

Claim 31 (previously presented): The mandrel of claim 1 wherein the top surface of the mandrel is concave.

Claim 32 (previously presented): The mandrel of claim 1 comprising a groove parallel to the edge of the top surface.

Claim 33 (previously presented): The mandrel of claim 32 wherein the groove has a depth from about 0.01 millimeter to about 1 millimeter.

Claim 34 (previously presented): The mandrel of claim 1 wherein the mandrel edge has a radius of curvature of no more than about 0.1 millimeter.

Claim 35 (previously presented): The mandrel of claim 1 comprising a polymer on the contoured surfaces.

Claim 36 (previously presented): The mandrel of claim 29 wherein the sharp edge has a radius of curvature of no more than about 0.25 millimeter.

Claim 37 (previously presented): The mandrel of claim 29 comprising a polymer on the contoured surfaces.

Claim 38 (new): A mandrel for forming leaflets of valved prostheses, the mandrel comprising:

an end surface; and

a sidewall surface comprising a contoured surface section conformal with a shape of a leaflet, the leaflet having a free edge;

wherein the contoured surface section and at least an adjacent region of the end surface have a predetermined wetting property for receiving a polymer composition having a predetermined viscosity; and

wherein the contoured surface section intersects the end surface to form a boundary that corresponds to the free edge of the leaflet, the boundary generally having a radius of curvature comparable to a coating thickness predetermined by the wetting property of the contoured surface section and the end surface adjacent region, and by the viscosity of the polymer composition.

Claim 39 (new): The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 135 degree angle and generally with the radius of curvature being no more than about 0.25 mm.

Claim 40 (new): The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 90 degree angle and generally with the radius of curvature being no more than about 0.1 mm.

Claim 41 (new): The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 135 degree angle.

Claim 42 (new): The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 105 degree angle.

Claim 43 (new): The mandrel of claim 38 wherein the contoured surface section intersects the end surface generally at no more than about a 90 degree angle.

Claim 44 (new): The mandrel of claim 38 wherein the radius of curvature is no more than about 0.25 mm.

Claim 45 (new): The mandrel of claim 38 wherein the radius of curvature is no more than about 0.15 mm.

Claim 46 (new): The mandrel of claim 38 wherein the radius of curvature is no more than about 0.1 mm.

Claim 47 (new): The mandrel of claim 38 wherein the mandrel is a male mandrel.

Claim 48 (new): The mandrel of claim 38 wherein the mandrel is a female mandrel.

Claim 49 (new): The mandrel of claim 38 wherein the contoured surface section comprises a groove parallel to the boundary.

Claim 50 (new): The mandrel of claim 38 wherein:

the sidewall surface further comprises an additional surface section conformal with the shape of the leaflet in a relaxed state;

the additional contoured surface section has the predetermined wetting property; and

the additional contoured surface section intersects the end surface to form an additional boundary that corresponds to the free edge of the leaflet, the additional boundary generally having a radius of curvature comparable to the predetermined polymer coating thickness.